

<https://helda.helsinki.fi>

Quantitative Easing Forever? : Financialisation and the p  the Institutional Legitimacy of the Federal Reserve Unconventional Monetary Policy

Ronkainen, Antti Juhani

2017-10-21

Ronkainen , A J & Sorsa , V-P A 2017 , ' Quantitative Easing Forever? Financialisation and
p  the Institutional Legitimacy of the Federal Reserve s Unconventional M
New Political Economy , vol. 23 , no. 6 , pp. 711-727 . <https://doi.org/10.1080/13563467.2018.1384455>

<http://hdl.handle.net/10138/248736>

<https://doi.org/10.1080/13563467.2018.1384455>

cc_by_nc_nd

publishedVersion

Downloaded from Helda, University of Helsinki institutional repository.

This is an electronic reprint of the original article.

This reprint may differ from the original in pagination and typographic detail.

Please cite the original version.



Quantitative Easing Forever? Financialisation and the Institutional Legitimacy of the Federal Reserve's Unconventional Monetary Policy

Antti Ronkainen & Ville-Pekka Sorsa

To cite this article: Antti Ronkainen & Ville-Pekka Sorsa (2018) Quantitative Easing Forever? Financialisation and the Institutional Legitimacy of the Federal Reserve's Unconventional Monetary Policy, *New Political Economy*, 23:6, 711-727, DOI: [10.1080/13563467.2018.1384455](https://doi.org/10.1080/13563467.2018.1384455)

To link to this article: <https://doi.org/10.1080/13563467.2018.1384455>



© 2017 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 09 Oct 2017.



Submit your article to this journal [↗](#)



Article views: 637



View Crossmark data [↗](#)



Citing articles: 1 View citing articles [↗](#)



OPEN ACCESS



Quantitative Easing Forever? Financialisation and the Institutional Legitimacy of the Federal Reserve's Unconventional Monetary Policy

Antti Ronkainen ^a and Ville-Pekka Sorsa ^b

^aDepartment of Political and Economic Studies, University of Helsinki, Helsinki, Finland; ^bDepartment of Management and Organisation, Hanken School of Economics, Helsinki, Finland

ABSTRACT

Scholars of financialisation have argued that the emergence of finance-led growth regimes requires new instruments for effective conduct of economic policy. In this scholarship, central banks have been seen as the most promising actors to utilise one of the most synergetic policies, the maintenance of high and stable prices of financial assets. Since the financial crisis of 2007–8, central banks of the developed world have adopted various unconventional monetary policy measures that serve this function. But will these unconventional measures become institutionally legitimate and institutionalised as conventional practice, as suggested necessary by scholars of financialisation? In this paper, we answer to this question by studying the institutional legitimisation of the Federal Reserve's Quantitative Easing (QE) programmes. We argue that the QE programmes have been legitimated successfully but with institutional legitimisation strategies, which cause institutional pressures that question the potential of QE from becoming a regular policy instrument and practice.

ARTICLE HISTORY

Received 8 August 2016

Accepted 21 September 2017

KEYWORDS

Central banks; the Federal Reserve; financial stability; financialisation; institutional legitimacy; legitimisation; Quantitative Easing

Introduction

Financialisation has become one of the main 'world explanations' in contemporary political economy (Epstein 2005, Krippner 2005). The concept denotes the emergence of a new capitalist regime of accumulation and growth, the ascendancy of the shareholder value orientation in corporate governance, and the increasing importance of financial institutions and actors in the everyday life of human beings (van der Zwan 2014). The new accumulation regime refers to the new 'finance-led' growth regimes, which, as various scholars have argued (e.g. Aglietta 2000, Crouch 2009), have replaced the wage-led 'Fordist' accumulation regimes of industrial economies during the last few decades. These regimes are based on open and liberalised financial markets, highly diffused and high levels of indebtedness brought by corporate leverage, mortgages and consumer credit, and diffused ownership brought by corporate expansion, securitised savings, and funded pensions (Boyer 2000).

The increasing value of financial assets, or the so-called wealth effect, is expected to replace increasing wage levels as the main driving force behind sustained demand and economic growth in the regime. Consequently, the maintenance of high asset price levels is expected to replace 'Keynesian' management of effective demand in the economy as the most effective form of economic policy due to high institutional complementarities (Stockhammer 2008). In his seminal article

CONTACT Antti Ronkainen  antti.ronkainen@helsinki.fi

© 2017 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

published at the turn of the millennium, Boyer (2000) studied the dynamics of the emerging finance-led growth regimes. Boyer argued that the sustainability of the new regime is dependent on effective maintenance of the wealth effect and systemic financial stability, including avoidance of escalating financial bubbles (Boyer 2000: 122), rapid action to prevent bubbles from bursting (Boyer 2000: 133), and maintenance of liquidity and price stability in various asset classes (Boyer 2000: 124). According to Boyer, the main actors that have institutional capacity to conduct this policy effectively are central banks. Boyer anticipated that central banks would adopt the new rationale of maintaining wealth effect and financial stability as the nature of regime evolves and old monetary policy tools turn ineffective. He notes that, in a financialised economy,

monetary policy no longer has the sole function of ensuring the best 'policy mix' between growth and inflation. The careful scrutiny of the international financial community and substantial openness to external competition deliver low inflation or even a deflation-prone economy where the central bank can much more easily defend price stability. These structural transformations grant a new degree of freedom just as the recurrence of financial bubbles gives the central bank a new role: monetary policy should now guide the development of the financial markets in the best possible way. (Boyer 2000: 120)

During and after the financial crisis of 2007–8, central banks all over the developed world more or less stepped into the role anticipated by Boyer, as they introduced various types of 'unconventional' policy measures (Borio and Disyatat 2010, Davies and Green 2010, Cour-Thimann and Winkler 2012). Yet, one must not take for granted that central banks have stepped into the new role on a permanent basis, as the legitimacy of post-2008 activities of central banks has been seriously questioned (see e.g. Engelen *et al.* 2011, Bowman *et al.* 2013). The unconventional measures relied upon improvisation, bricolage, selective provision of information, and tacit knowledge, with central bankers taking on a more overt political role in economic governance (Engelen *et al.* 2011). As result, central banks have sought for new ways to legitimate their policy measures (Holmes 2013: 37).

Indeed, maintaining wealth effect on a regular basis is not dependent only on whether central banks choose to adopt a new rationale for managing a financialised economy; it is also dependent on the central banks' ability to turn the new rationale into regular institutional agency in different environments. Central banks' departure from previous sources of legitimacy raises some critical questions regarding the latter condition: How exactly were the unconventional monetary policies *institutionally* legitimated? Was legitimation successful? Moreover, institutional legitimation of an organisation's new activities is about more than changes in the ways in which actions are justified: legitimation based on new institutional sources subjects the activities to new institutional forces (see below). If unconventional monetary policy ever becomes a regular practice, the legitimation of the policies and its success will have a major impact on the form that the practice will take and, ultimately, determine its continuity.

In this paper, we study the institutional legitimation of unconventional monetary policy, its success, and the institutional forces that have started to influence policy as result of un/successful institutional legitimation. Our case study is focused on the US Federal Reserve's (hence: Fed) Quantitative Easing (hence: QE) programmes. In what follows, we argue that the Fed's QE programmes have been institutionally legitimated somewhat successfully but in a form that produces some institutional pressure to both sustain and not sustain QE as a regular practice. The argument of the paper is structured as follows. First, we briefly discuss introduce the 'unconventional' central bank measures in the post-2008 conjuncture, with special focus on the Fed and its QE programmes. Second, we conduct a literature review to identify the key sources of institutional legitimacy of central bank activities, and conceptualise three types of institutional legitimacy the Fed has to achieve in order to operate in the broader society. We then identify key indicators for gaining institutional legitimacy and analyse Fed's legitimation strategies vis-à-vis each type of institutional legitimacy with narrative analysis on documentation of monetary policy conduct, transcripts from Congress and Senate hearings, and Fed's various communications with experts and the broader public. Finally, we discuss the institutional forces that have come to influence QE as result of un/successful legitimation, and the challenges this has raised for making QE a regular policy practice.

Unconventional monetary policy and QE

Despite significant variation in institutional capacities to act (Agostini *et al.* 2016; Gerdesmeier *et al.* 2007, Lombardi and Moschella 2016), many central banks adopted the rationale of maintaining financial stability at high asset prices levels during or after the financial turmoil of 2007–8. The central banks of most developed countries adopted a number of unconventional monetary policy operations, including the purchasing of securities in central bank balance sheets with QE and Outright Monetary Transactions (OMT) programmes (Borio and Disyatat 2010). The rationales of these purchases included monetisation of financial assets to manage overall risk levels in financial markets and confidence in the economy, and the stabilisation of sovereign bond markets to maintain a credible interest rate policy (Dodd 2011, Cour-Thimann and Winkler 2012, Joyce *et al.* 2012, Bowman *et al.* 2013). The largest global central banks – the Fed, European Central Bank (ECB), Bank of Japan (BoJ) and Bank of England (BoE) – demonstrated new forms of cooperation to promote financial stability with measures such as liquidity swap coordination (Davies and Green 2010), while the Fed also adopted various measures of ‘sovereign international last-resort lending’ (Felderson 2011, McDowell 2012).

In this paper, our focus is on the Fed and more specifically on its three QE programmes. QE denotes purchases of certain financial assets and their inclusion in the Fed’s balance sheet. Each purchasing programme defined the target assets, which by law can include securities issued by public and semi-public bodies, and the volume of purchases.¹ The QE purchases quadrupled the Fed’s balance sheet from \$900 billion to about \$4.5 trillion. According to the the main governing body of the Fed, the Federal Open Market Committee (FOMC), the explicit objective of the QE programmes was to support the broader economy by improving financial conditions. QE1 aimed ‘to reduce the cost and increase the availability of credit for the purchase of houses, which in turn should support housing markets and foster improved conditions in financial markets more generally’ (FOMC 2008). QE2 was intended to ‘promote a stronger pace of economic recovery and to help ensure that inflation, over time, is at levels consistent with [the Fed’s] mandate’ (FOMC 2010c). QE3 continued along the lines of previous programmes, but was supposed to continue unless the ‘outlook for the labor market does not improve substantially’ (FOMC 2012b).

We argue that the QE programmes mark a major shift in Fed’s approach to financial stability towards active promotion of the wealth effect. The Fed’s approach between the late 1980s and early 2000s has been called the ‘Greenspan put’, named after the Fed chairman Alan Greenspan, or the perceived active insurance of downside risks faced by investors (Miller *et al.* 2002). It was characterised by explicit promise of interventions preventing major financial market falls, and serving as a banking supervisor focused on micro-prudential issues (Golub *et al.* 2015). Unlike Greenspan, his successor, Ben Bernanke, favoured the so-called New Monetary Consensus view that financial markets are efficient (Bernanke 2002, Tymoigne 2009). The early Bernanke era approach was called ‘*post hoc* interventionism’, which suggested that action should be taken only after financial bubbles have already burst (Golub *et al.* 2015). The QE programmes, in contrast, turned *post hoc* interventions into ad hoc active engagement in specific markets, and broadened the scope of ‘macro’ functions to include asset price stability in certain financial markets (Dodd 2011, Le Maux and Scialom 2013), while keeping the Fed’s approach to micro-prudential supervision mostly intact (see Harnay and Scialom 2016).²

Institutional legitimacy of central bank operations

The main purpose of the paper is to analyse how the Fed institutionally legitimated its QE programmes, how successful institutional legitimation was, and what kinds of institutional forces have in consequence started to influence QE. Our analysis draws on the idea of institutional legitimacy as presented in the so-called sociological institutionalism of organisation studies (DiMaggio and Powell 1991). Instead of notions like input and output legitimacy related to political processes,

institutional legitimacy draws attention on constitutive beliefs, or the generalised perceptions and assumptions that the actions of an entity are desirable, proper or/and appropriate when they comply with or remain within the boundaries set by institutional structures (Suchman 1995: 574), or, socially constructed systems of norms, values, beliefs, and definitions (Scott 2013).

Gaining institutional legitimacy is nearly synonymous with institutionalisation, or, continuity warranted by compliance with institutional structures (Suchman 1995: 576). However, no activity is associated with institutional structures 'naturally': building these associations is an active process involving *institutional legitimation*, the justification of activities based on institutional structures in the actor's environment. Seeking new sources of institutional legitimacy subjects the actor to new types of institutional pressures (Suchman 1995), and encapsulates new interests and social relations in the legitimated activities (Swedberg 2003). When activities gain institutional legitimacy, they turn into elastic and meaningful practices encapsulating specific constitutive beliefs and hence ossify into normal practice (Scott 2013). When practices institutionalise, they start to have their own life and are shifted beyond full control of a single actor (Peck 2000).

Institutional legitimation involves formal narratives seeking compliance with regulations, narratives complying with norms that define moral acceptability and appropriateness, and framing of activities with discourses that ensure recognisability and cultural support (Gronow 2008, Scott 2013). It typically takes the form of mimicry and isomorphism in organisational structure and practice, and narrative coupling, de- and re-coupling of norms and values with some activities (Ashforth and Gibbs 1990). Legitimation narratives typically highlight the frequency and circumstances of actions (Perrow 1981). We do not assume that central banks follow any homogenous one-best-way legitimation strategy that is commonplace in simple institutional environments (Smith and Lewis 2011). Instead, we analyse legitimation as relative to their institutional contexts and audiences, including the possibility of divergent and paradoxical narratives to external and internal audiences in different circumstances (Scherer *et al.* 2013). This resonates well with previous research, which suggests that operational environments of central banks are increasingly complex (see Bowman *et al.* 2013: 457), and that Fed's communication strategy is highly individualistic and context-dependent despite a collegial approach to decision-making (Ehrmann and Fratzscher 2007).

Central banks are somewhat exceptional policy actors in terms of their institutional legitimacy (Singleton 2010). They have to achieve continuity while dealing with two functions of institutional legitimation, which are often contradictory and cannot be necessarily met with consistent argumentation (Krippner 2007). First, central banks are operationally independent of governments, but their activities have to be perceived as legitimate to maintain political independence (Goodman 1991). Their actions are institutionally guided by regulatory mandates, which define the appropriate objectives but do not specify the ways in which these objectives should be met. The mandates, missions, and more general rules over central bank conduct have been constantly renegotiated in the history of central banking (Singleton 2010, Ugolini 2011). Second, central banking is in nature a 'performative art' in which various institutional mechanisms are employed to produce the aspired effects (Holmes 2013). This means that central banks require institutional legitimacy to create the actual conditions in which monetary policy becomes effective.

Previous research has identified three more specific sources of institutional legitimacy in case of the Fed. First, the institutional legitimacy of the Fed depends on its ability to avoid legal and political contestation that would compromise its operational independence (Jacobs and King 2016). Institutional legitimation needs to be credible and comprehensible to representatives of the public, while also maintaining a tangible relation to Fed's official mandates. The Fed's official mandate refers to objectives of 'maximum employment, stable prices, and moderate long-term interest rates' (Fed 2016), and to various legal constraints to its operations (see next section). The Fed has regarded politicians and editorials and op-eds of major newspapers as the main representatives of the broad public and as protagonists whose concerns need to be addressed in order to maintain public legitimacy in general (Holmes 2013: 10) and in particular the willingness of the Congress to let it to define 'the architecture of modern finance' (Jacobs and King 2016).

Second, maintenance of Fed's operational independence requires demonstration of expertise, rationality, and efficiency. As McNamara (2002) notes, delegation to independent central banks is rational, efficient, and acceptable in a democratic society because of the cultural processes that define it as such. Central bank independence draws on a group-affiliation tradition and centres social power in the hands of economic technocrats and financial interests (Carruthers 1994), which makes cultural recognition and acceptance of and consensus among peer technocrats a key factor in gaining this type of legitimacy. Central banks usually gain professional legitimacy by convincing their main peers, the monetary policy elites in other central banks and economics departments of key universities, with tangible research results and state-of-the-art ideas in academic economics (Holmes 2013: 10–2). Isomorphism of operations and structures between other central banks is commonplace especially when consensus on the merits of specific activities is reached (Polillo and Guillén 2005).

Third, Fed's legitimacy is dependent on building a consistent narrative between all activities in the past and present to ensure credibility in the eyes of the market actors whose activities it seeks to influence. Abolafia (2004, 2010) argues that the Fed's narrative is characterised by weaving 'sensible plots' that integrate new policies with existing modes of operating. Abolafia (2010) identified three stages in which the Fed typically forms such legitimisation strategies. The first stage is abduction, or the comparison of culturally approved models to the current conditions to establish relevant facts and events, followed by plotting, the reordering of those facts and events into a plausible narrative. What follows is selective retention, or the collective negotiation of a policy choice that fits the emerging narrative.

In the 1990s, Fed's overall institutional legitimisation strategy became to stand on two key pillars. The first one was 'scientisation', or the 'intellectualisation of the world, an objectification of things via formal analysis and mathematical abstraction [and] a technical mastery via specialised practices and discourses' (Marcussen 2009: 3). Until the financial crisis, this mastery relied on the ideas of the New Monetary Consensus, a theoretical framework based on mainstream economics that defined precise circumstances and appropriate tools for normal monetary policy conduct (Goodfriend 2007, Pilkington 2013). Second was transparency of operations and communication (Hetzel 2006). It was informed by the ideals of good governance and public accountability (Issing 2005), as well as the ideas of the New Monetary Consensus in the sense that policy transmission should be rational expectations prized. The rationale was that when central bank acts in a transparent, predictable, and precise manner, it reduces the uncertainty experienced by market actors and hence improves its ability to control inflationary expectations (Velthuis 2015).

Central banks' reactions to the financial crisis of 2008 have been regarded as a game-changer in the institutional legitimacy of central banks. Bowman *et al.* (2013: 457) note that in the post-2008 conjuncture, the techno-political settlement of precise and scientised central banking is no more: central banks now operate in a 'post-normal' world, in which facts are uncertain, values in dispute, stakes high and decisions urgent, and the conduct of 'open' or 'scientised' central banking impossible. Engelen *et al.* (2011) have argued that in the post-2008 conjuncture, the success of central bank actions is determined as much or more by their further actions as market reactions. This has forced central banks to find new ways to legitimate their activities.

Institutional legitimization of the Federal Reserve's QE programmes

We have argued above that in order to gain institutional legitimacy, the Fed must in its legitimisation strategy simultaneously (a) represent the QE to public protagonists as mandate and regulation-wise appropriate public policy tool to maintain its status as an independent policy actor (public institutional legitimacy), (b) demonstrate the rationale and effectiveness for conducting QE programmes and convince monetary policy and academic elites and market actors to maintain the perception of expertise and being-in-control (professional institutional legitimacy), and (c) construct an overall narrative of operational schemas that accommodates QE consistently with Fed's other activities to maintain credibility in the eyes of market actors (performative institutional legitimacy). In this section, our

focus turns on how the Fed has legitimated its QE programmes vis-à-vis these three types of institutional legitimacy and on the success or failure of legitimation.

We use two sets of publicly available documentary data to study Fed's institutional legitimation strategy. First, we analysed Chairman Bernanke's Monetary Policy Report testimonies in House and Senate after the introduction of QE1, QE2, and QE3, as our primary material to address legitimation narratives vis-à-vis the first type of institutional legitimacy.³ Due to the regularity and interactive nature of the hearings, these data provide reliable material for studying how legitimation developed over the three programmes. The material includes Monetary Policy Report testimonies in Senate and House in June 2009, March 2011, and February 2013. Second, in order to analyse the institutional legitimation strategies towards expert audiences and market actors, we studied the Fed's chairperson's speeches concerning the QE programmes, transcripts from FOMC's decisions over QE1 and QE2,⁴ proceeding press conferences, and public correspondence with expert critiques of QE programmes in main US newspapers. In all these materials, we identified narratives that couple some institutional structures (regulations, norms, schemas, etc.) with activities related to QE. Our analysis method can be called theory-driven narrative analysis (Dodge *et al.* 2005), which is highly suitable for analysis of institutional legitimation (Landau *et al.* 2014). All the data sources are cited in the text. We have divided our analysis according to the three types of institutional legitimacy. We will introduce the more specific indicators for success in legitimation in connection with each type in more detail. The emerging institutional pressures towards QE that result from success or failure of institutional legitimation are discussed in more detail in the discussion section.

Public institutional legitimacy

Fed's public institutional legitimacy depends most importantly on the maintenance of its mandate provided by the Congress and the avoidance of executive orders related to conduct of foreign policy (Jacobs and King 2016). Two proxies signal the success of Fed's legitimation in face of these potential challengers. First is the lack of executive orders and low popularity of suggested revisions to the Fed's mandate in Congress during the period of the three QE programmes. Republicans as well as Democrats have introduced several bills in the Congress related to QE, including bills advocating limitations to its capacity to conduct emergency lending, forcing the Fed to disclose its borrowers identities, and replacing discretion with rules in interest rate policy (Bernanke 2015: 450–2, 571–3). All these bills have been unsuccessful. In contrast, the Fed's mandate has been in part broadened, for instance by the Dodd-Frank Act, which introduced new supervisory duties. The second is the frequency of critical questioning of the QE programmes in the House Committee on Financial Services and Senate Committee of Banking, Housing and Urban Affairs. The Humphrey-Hawkins Full Employment Act of 1978 requires the Federal Reserve Board to submit a Monetary Policy Report to these two committees to discuss and debate the conduct of monetary policy twice a year. We identified general themes and issues on which the Fed has been contested in the hearings. The key issues were related to appropriateness vis-à-vis the mandated objectives and potential transgressions of particular legal constraints. We find that the number of questions regarding each key issue has risen over time (see Table 1), which suggests that the Fed's legitimation strategy may have become less successful.

Increase of employment rates and promotion of economic growth were the primary legitimation narratives in the hearings. The schematic rationale through which Fed coupled QE with the target of maximum employment is called the portfolio balance channel (hence: PBC). PBC combines more traditional ideas of monetary policy (manipulation of interest rates to facilitate lending) with the more recent idea of wealth effect (higher asset prices ought to lead to increased consumption and investment). Bernanke (2010a) explains the rationale of PBC as follows:

lower mortgage rates will make housing more affordable and allow more homeowners to refinance. Lower corporate bond rates will encourage investment. And higher stock prices will boost consumer wealth and help

Table 1. The number and presenters of questions contesting the QE programmes in House Committee on Financial Services (FS) and Senate Committee on Banking, Housing and Urban Affairs (BHU) hearings.

	Compliance with the mandated policy objectives	Generation of financial bubbles	Monetisation of public debt	Manipulation of the exchange rate	N
FS 21 July 2009	Frank, Paul, Ellison, Marchant, Posey, Kilroy		Paul, Lance		8
BHU 22 July 2009	Bunning, Menendez		Bunning		3
BHU 1 March 2011	Shelby, Menendez, Hagan, Moran, Reed, Vitter	Shelby	Shelby, Johanns, Kirk, DeMint	DeMint	12
FS 2 March 2011	Hensarling, Neugebauer, Garret, Lynch, Luetkemeyer, Dold		Paul, Hensarling, Neugebauer	Hensarling	10
BHU 26 February 2013	Shelby, Corker, Menendez, Coburn, Heller	Crapo, Toomey, Heller		Corker, Coburn	10
FS 27 February 2013	Campbell, Hensarling, Neugebauer, Pearse, Fitzpatrick, Luetkemeyer, Garrett, Mulvaney, Royce, Stivers	Campbell, Garrett, McHenry, Hinojosa, Luetkemeyer, Royce	Campbell, Neugebauer, McHenry, Bachman	Garrett	21
Total	35	10	14	5	64

increase confidence, which can also spur spending. Increased spending will lead to higher incomes and profits that, in a virtuous circle, will further support economic expansion.

The PBC especially aimed to lower the rates of long-term bonds. As Bernanke (S. Hrg. 112-8: 6) explains,

the Federal Reserve's purchases of longer-term securities by lowering term premiums put downward pressure directly on longer-term interest rates. By easing conditions in credit and financial markets, these actions encourage spending by households and businesses through essentially the same channels as conventional monetary policy.

The positive impacts of PBC to employment or economic growth were directly questioned in neither of the committees. Instead, the critical questioning was focused on the possibility of increasing inflation especially in connection with the two first rounds of QE. Various representatives argued that increasing money supply would directly boost inflation, while others argued that market actors regard QE as money printing, which leads to higher inflation expectations. For example, representative Ron Paul criticised the Fed after QE1 as follows:

So you are saying, if you buy \$300 billion worth of U.S. Government debt, that is not inflationary. The true definition of 'inflation' is when you increase the money supply. – You have doubled the money supply; interest rates are artificial. People make mistakes. So it seems to me that you are in the midst of massive inflation. But I guess you have a different definition. When you double the money supply, that is not inflation itself? Or are you looking at only prices? (H. Hrg. 111-64: 19)

Bernanke typically avoids these questions, or refers to research findings demonstrating that QE will not increase inflation beyond manageable levels. For example, after QE2, Bernanke (2010b) responded to his critics that QE1 'had little effect on the amount of currency in circulation or on the broad measures of the money supply'. Bernanke also sought to assure both committees that the Fed did not have any illusion that allowing inflation to rise would be in any way a constructive thing to do, and stated that the Fed has all the necessary tools to control price stability even if QE would cause inflation (S. Hrg. 112-8: 40).

The possible breach of two specific legal constraints raised much concern in the hearings. Since the so-called Treasury-Fed Accord of 1951, the Fed has been forbidden to buy Treasury bills directly from the federal government. When QE1 was expanded to sovereign bonds in March 2009, the Fed was accused of violating these principles. For example, the Republican senator Mark Kirk claimed that

the effect of the Fed's purchase of Treasury securities on the Federal budget is similar to monetisation, whether the Fed buys securities on the secondary market or directly from Treasury. When the Fed holds Treasury securities, Treasury must pay interest to the Fed as it would to any private investor. These interest payments after expenses become part of the profits of the Fed. The Fed, in turn, remits 95 percent of the profits to the Treasury, where it is added to the general revenues. (S. Hrg. 112-8: 34)

The Fed has never denied its impact on the federal public finances or debt service payments, but only denied the intention to do it. For example, Bernanke explicitly stated that QE1 was not intended to make ‘deficit finance possible or to reduce the cost of Government finance’ (S. Hrg. 111-287: 61). Yet, the Fed’s main legitimisation strategy was based on presenting QE as a temporary tool. The FOMC policy transcripts reveal that when the Fed planned QE2, the New York Fed president William Dudley suggested a communication strategy based on the idea that the impermanence of QE separates it from monetisation of public debt. Bernanke expressed the legitimisation strategy in the hearings by claiming that ‘we are not monetising the debt because we will be returning our balance sheet to a more normal level ultimately’ (S. Hrg. 112-8: 24).

The Fed has also been forbidden to directly manipulate the exchange rate of the dollar ever since the collapse of the Bretton Woods system. This topic was present in most hearings. Here, too, the legitimisation strategy was hence to decouple criteria for assessing the success of the policy from the criteria used to design it. Bernanke argued that the QE programmes are not designed to conduct exchange rate targeting, thus representing all impacts on the exchange rate only as ‘collateral damage’ (H. Hrg. 112-11). He also downplayed QE’s impacts on the exchange rate, and argued that ‘the dollar has not moved very much at all and the commodity prices have risen just about as much in other currencies as they have in terms of the dollar’ (H. Hrg. 112-11). However, within the FOMC, Bernanke argued that the ‘decline in the dollar is part of the – transmission mechanism’, while the Fed economist David Reifschneider clarified that the macroeconomic effects of QE was decomposed ‘as due about two-thirds to the dollar effect, with the remaining one-third being split roughly equally between the lower bond yields and the higher stock values’ (FOMC 2010b: 37, 104).

Causing of financial bubbles has become a controversial issue in the hearings. Various questions regarding the relation between Fed’s monetary policy and the financial crisis were voiced from early on (e.g. S. Hrg. 111-287: 60, H. Hrg. 113-3: 137). After QE2, congressional Republican leaders also sent an open letter to Bernanke warning that the QE could ‘potentially generate artificial asset bubbles that could cause further economic disruptions’ (*New York Times* 2010). The Fed represented QE1 mostly as an emergency measure to fight the escalating financial crisis. However, Bernanke has never denied that the Fed was manipulating asset prices, but even attributed the success of the Fed’s QE programmes largely to the effective manipulation of investors’ preferences over different asset classes – ‘making the corporate bond market more attractive, making the stock market stronger, and the like’ (S. Hrg. 112-8: 31). Fed’s legitimisation strategy has been to deny either the existence of bubbles or Fed’s culpability in producing any kind of bubbles, hence decoupling mechanisms producing financial bubbles from the QE policy. For example, Bernanke argued that the housing bubble was primarily caused by global savings imbalances and capital flows amplified by weaknesses in the domestic financial system, including inadequate mortgage underwriting, risk management, and supervision (S. Hrg. 111-287: 60). Bernanke also denied the existence of major bubbles, because house prices were still ‘lower than fundamentals might suggest’ and stock prices ‘do not appear overvalued – because firms are enjoying a high level of profitability’ (H. Hrg. 113-3: 137).

Professional institutional legitimacy

The continuity of Fed’s operational independence is dependent on the perception of it being rational and effective, which in turn requires some degree of consensus on the rationales of policy conduct among peer technocrats. Finding direct indicators for the success of legitimisation in this context is difficult thanks to limited public availability of data. Decision-making processes revealing the specific schematic rationales of and beliefs behind monetary policy processes are not publicly accessible, nor is it possible to know reliably whether individual central bankers approve the rationales of QE. Nevertheless, we identify two proxies to indicate success or failure in Fed’s institutional legitimisation in face of peer experts. First is the adoption of and isomorphism between large-scale asset purchase programmes in other central banks, which indicates that central bankers have appraised QE’s schematic rationale. Especially the ECB (Lombardi and Moschella 2016) and BOE (Agostini *et al.* 2016) followed

the Fed by adopting measures, whose schematic rationales (i.e. PBC) were highly similar to Fed's QE programmes despite variation in the composition of purchasing programmes. Second is consensus on the rationale of QE among the FOMC, which consists of the members of Fed's Board of Governors, and the presidents of the state-level reserve banks. Consensus within FOMC indicates agreement on the appropriateness of the measures taken among the US central bankers. Even though a sufficient consensus was reached to implement the policy in the first place, many critiques were voiced within the FOMC.

QE1 was based on policy improvisation, whose legitimation to expert audiences relied on the rare conditions in which activities took place (Bowman *et al.* 2013). Indeed, little academic research on the effects of QE existed when the first programme was introduced. Most research had addressed only Bank of Japan's QE programmes conducted during the economic crisis of the 1990s (Williams 2014). In its later legitimation to expert audiences, Fed has mostly relied on counterfactual simulations to demonstrate the positive macroeconomic effects of QE (e.g. Bernanke 2012). As Martin and Milas (2012) have noted, the methodology used by central bankers to demonstrate the effects of QE were highly similar in all of the programmes. The simulations have relied on ideas of market-based policy transmission mechanisms and rational expectations, or, that market actors will adjust their behaviour on basis of expectations towards further central banks' activities (Pilkington 2013). This suggests that the QE's legitimation among the expert audiences has relied on prevalent theoretical paradigms even as the policy has matured. Fed's legitimation became more precise as the policy matured and data emerged for backward-looking counterfactual simulations. For example, when Bernanke (2012) hinted of QE3 in his Jackson Hole conference speech in 2012, he referred to studies that had found that QE1 and QE2 had pushed down the interest rate of 10-year Treasury bills by 80–120 basis points, created over two million jobs, and raised the level of economic output by almost three percentage points.

While schematic rationales of QE and their generalised theoretical assumptions have not been questioned as such, the effectiveness of the rationale raised much debate among the US central bankers from early on. The FOMC transcripts on QE1 and QE2 decisions reveal that there was much uncertainty regarding the effectiveness of rational expectations based policy even though few dissented with the rationale itself. For example, when the FOMC expanded QE1 in March 2009, David Reifschneider, an economic advisor of the Federal Reserve Board, said that 'households and firms may be reluctant to increase spending in the face of so much uncertainty, and credit constraints may limit their ability to respond to improved financial conditions' (FOMC 2009: 13). Several Fed presidents argued in FOMC that QE2 would not help to achieve employment targets. Governor Elisabeth Duke argued that QE2 would help banks to repair their portfolios, and businesses and consumers their balance sheets, but 'unless [QE2] makes a big difference getting people into jobs, it won't support new borrowing' (FOMC 2010b: 87). Jeffrey Lacker of the Richmond Fed stated that

the Tealbook estimates that a \$600 billion asset-purchase programme will only make the unemployment rate 0.3 percentage point lower at the end of 2012. This is a strikingly small number, in my mind, and it makes the benefits of such a programme look really small relative to the risks. (FOMC 2010b: 57)

The transmission mechanisms of QE became questioned especially after QE2. For example, a number of Fed economists have argued that the impacts of QE are much more dependent on communication of interest rate policy than guidance about asset purchases (Cúrdia and Ferrero 2013, Williamson 2015). The effectiveness of QE in combating deflation is another example (see FOMC 2010a). For example, Narayana Kocherlakota of the Minneapolis Fed argued that QE2 'provides about a 10 basis point increase in the inflation rate over a two-year period. This isn't getting us to 2 per cent. – The question is: What are the tools we have available right now to get to that level?' (FOMC 2010b: 74). The counterproductive effects of manipulating asset prices, too, have raised some concern. For example Kansas City Fed president Thomas Hoenig dissented with QE2, and his successor Esther George with QE3, because they believed that continued decrease in interest rates would

increase future financial imbalances (FOMC 2010c, 2013). A number of influential economists had also questioned QE2 on basis that it will distort financial markets (Rajan 2010, Wall Street Journal 2010).

Performative institutional legitimacy

In order to gain performative institutional legitimacy, a consistent accommodation of new practices with previous ones is needed to maintain credibility among and, hence, effective guidance of market actors. We identify one key requirement for gaining such legitimacy, which we also use as a proxy for achieving it: the lack of conflicting signals in the scripts and schemas that underpin Fed's representations of the QE policy. By conflicting signals, we refer to the existence of actions or circumstances in which the Fed can be expected to conduct conflicting or paradoxical policies. These can be studied by identifying *policy triggers*, or, the conditions in which QE is activated, maintained, and unwound. Here, we find that the Fed has been able to form a coherent narrative with few conflicting signals. However, we also find that the lack of conflicting signals is the product of vague definitions of circumstances and changing priority orders of different policy instruments, which casts serious doubts over the effectiveness of the chosen legitimization strategy.

The Fed has specified various policy triggers as the QE policy has matured. In 2013, Bernanke (2013) admitted that the strategy of QE1 and QE2 to announce fixed-size programmes was not necessarily effective because it left 'considerable uncertainty' regarding the precise circumstances that warrant changes in existing QE programmes or trigger a new one. The FOMC started to introduce explicit triggers between QE2 and QE3. In January 2012, the FOMC stated that all policy decisions 'must be informed' by assessments of the maximum level of employment and inflation targets (FOMC 2012a). By maximum employment, the Fed referred to a level of employment that it does not expect to accelerate inflation, or, Non-Accelerating Inflation Rate of Unemployment (NAIRU). In the beginning of Janet Yellen's presidency the assessment was specified to refer to combination of both realised and estimated NAIRU and inflation targets (FOMC 2014a). Financial market stability has also been suggested, albeit vaguely, as a possible trigger for new purchases. Bernanke has stated that if financial stability related 'problems become sufficiently worrisome – they would be taken into account in our monetary policy' (S. Hrg. 113-6: 29), while Yellen (2014) has argued that all relevant monetary policy instruments can be used if credit provision accelerates, if borrower losses rise sharply, or if leverage and liquidity in the financial system deteriorates.

Triggers for maintaining and unwinding the QE programmes have also been specified over time. Since QE1, the Fed has constantly argued that unconventional monetary measures become unnecessary when the economy recovers, banks find more opportunities to lend, and inflationary pressures start to emerge (Bernanke 2009). Bernanke has argued that the only way to pick up 'the right moment' and 'appropriate pace of tightening' is based on short-term (12–8 month) projections about economic output gap, labour market developments, inflation, and inflation expectations (H. Hrg. 111–64: 28). In connection with QE2, Bernanke argued that inflation above the level that 'we all consider consistent with price stability' would be another reason to reduce the size of the Fed's balance sheet (FOMC 2010b: 107). In May 2013, Bernanke stated that the reduction of purchasing volumes would be made fully dependent on both employment and inflation indicators (S. Hrg. 113–62: 11). Another trigger has been Fed's own interest rate policy.

The relations between other policy instruments have also been defined over time. For example, Bernanke (2009) declared already in connection with QE1 that when inflationary pressures start to emerge, the Fed would primarily use *other* policy tools to tighten monetary policy and to 'neutralise any potential undesired effects on the economy'. He especially referred to Fed's new mandate to pay interest on bank reserves held at the Fed, which was granted by the Congress during the financial crisis. Bernanke also argued that if a gap between the Federal Funds Rate (FFR) and the rate that the Fed pays on reserves persists, it could reduce reserves and drain excess liquidity from the markets. The division of labour between QE and macroprudential tools is another case in point. For example, Yellen (2014) has highlighted the importance of 'macroprudential policies, such as

regulatory limits on leverage and short-term funding, as well as stronger underwriting standards' as 'far more direct and likely more effective methods' to address financial vulnerabilities than changes in Fed's balance sheet.

However, the priority orders of different instruments have been reversed over time. In the early rounds of QE, the Fed argued that QE is conducted only in conditions of zero interest rate policy (hence: ZIRP). In 2012, the FOMC specified that ZIRP will continue at least as long as the unemployment rate remains above 6.5 per cent, 1–2 year inflation is projected to be no more than 2.5 per cent, and longer term inflation expectations continue to be 'well anchored' (FOMC 2012b).⁵ However, in 2014, the FOMC in effect decoupled QE from ZIRP by stating that shrinking the balance sheet will happen only *after* Fed begins increasing the target range for the FFR, and that mortgage-backed securities will be excluded from the process anyway (FOMC 2014b). The reinvestment of QE investment yields was also decoupled from short-term interest rate policy altogether. In 2015, when the FOMC raised FFR for the first time since the adoption of QE programmes, it stated that the size of its balance sheet is decreased only when it both expects to meet its inflation targets and the normalisation of FFR was 'well under way' (FOMC 2015a, 2015b: 2–3).

It must be noted here that even though the Fed has specified policy triggers over time, but it has also widened the range of relevant indicators and increased the use of its own estimates as main indicators. Take for example employment indicators. The Fed has represented asset purchases as dependent on a range of labour market indicators, including 'unemployment rate, payroll employment, hours worked, and labor force participation, among others' (FOMC 2012c: 2) without specifying their role as policy triggers. The FOMC (2014a) has even stated that QE policy is largely determined by factors that affect the structure and dynamics of the labour markets, which may not be directly measurable in the first place. The Fed has also constantly revised its own NAIRU estimates. As Table 2 shows, the NAIRU range expanded as soon as it was based on estimates in connection with QE2, and the lower boundary of the range has fallen below actual employment rates until very recently. Similar dynamics can be found in case of coupling QE with FFR. As noted, both measures are coupled with somewhat different indicators: while the FFR future path is dependent on inflation and NAIRU estimates, the QE is dependent on inflation and NAIRU estimates as well as future FFR estimate range. Throughout the QE programmes, Fed has estimated that interest rates will rise in the near future thanks to having inflation estimates that significantly exceed the actual inflation rates (see also Rosenberg 2016), which has allowed the Fed to decouple the triggers of interest rate policy and QE readjustments from each other.

Conclusions and discussion

Many central banks reacted to the financial crisis of 2008 with 'unconventional' measures anticipated by many scholars of financialisation. These scholars have argued that central bank maintenance of the wealth effect is necessary to conduct effective economic policy that utilises the synergies of new finance-led growth regimes. But will these 'unconventional' measures become institutionally legitimate and institutionalise as regular practice? In this paper, our focus has been on QE, the key instrument for maintaining the wealth effect, and its institutional legitimisation strategies used by the Federal Reserve.

Our analysis suggests that the Fed has legitimated the QE programmes somewhat successfully. It has been able to avoid successful political and legal contestation that would compromise its policy independence, but also faced increased questioning in the Congress and Senate hearings. Although consensus on the appropriate theoretical underpinnings of QE might not be permanent, as demonstrated by the disputes on transmission mechanisms and their effectiveness among the monetary policy elites, Fed has been able to conduct the large-scale purchases, and their legitimisation have been imitated by other central banks. The Fed has been able to maintain a somewhat coherent narrative and avoid perceptions of conflicting policies, and hence avoided main obstacles for conducting its 'performative arts', albeit only with increased control over the indicators that serve as policy triggers. These findings suggest that there are probably few immediate obstacles for QE to become a

Table 2. Summary of key indicators used as policy triggers in Fed's quantitative easing programmes.

Meeting	Actual unemployment rate	NAIRU estimate	Actual PCE inflation	Inflation estimate (2 years ahead)	Estimated long-term FFR (and average of presented projections)
QE1 launch (Dec 2008)	6.7%	–	2.3%	1.4–1.8% (2010)	–
QE1 expansion (Mar 2009)	8.1%	4.8–5.0%	1.7%	0.9–1.7% (2011)	–
QE2 launch (Nov 2010)	9.6%	5.0–6.0%	1.5%	1.1–1.8% (2012)	–
QE3 launch (Sep 2012)	7.7%	5.2–6.0%	2.5%	1.6–2.0% (2014)	3.0–4.5% (4.1%)
QE3 tapering (Dec 2013)	7.0%	5.2–5.8%	1.7%	1.5–2.0% (2015)	3.5–4.25% (3.9%)
QE3 conclusion (Oct 2014)	5.9%	5.2–5.5%	1.0%	1.7–2.0% (2016)	3.25–4.25% (3.8%)
FFR increase (to 0.25–0.50%, Dec 2015)	5.0%	4.8–5.0%	1.1%	1.8–2.0% (2017)	3.0–4.0% (3.8%)
FFR increase (to 1.00–1.25%, Jun 2017)	4.3%	4.5–4.8%	1.4%	2.0–2.1% (2019)	2.5–3.5% (2.9%)

Sources: FOMC minutes 2008–2017; Summary of Economic Projections 2008–2017.

Notes: The actual unemployment and inflation as Personal Consumption Expenditures rates describe the latest actual rates (rates at the end of the previous year) presented in the FOMC meetings based on official US statistics. The NAIRU estimates refer to the range of central tendency projections of longer run normal rate of unemployment, inflation estimates to the range of central tendency projections of longer run inflation rates, and FFR estimates to the range of midpoint estimates of FFR and its average, all calculated from the estimates presented by the FOMC meeting participants.

regular practice for the Fed. However, as we have argued in this paper, the mere success of legitimisation is not a guarantee for continuity: it is the *contents* of successful institutional legitimisation that determine what kind of institutional forces will eventually have effect on the practice of QE. Here, we find that the Fed's institutional legitimisation strategy includes three problems that cast some doubt regarding the continuity of QE.

First, the legitimisation strategy includes trade-offs between the three different types of institutional legitimacy. The Fed has maintained its public institutional legitimacy with a narrative that excludes exchange rate impacts from policy design. Yet, the impacts on the exchange rate have been represented to fellow central bankers as the single most effective component of QE. Given the disputes regarding the appropriate transmission mechanisms and prevalent critiques of QE on basis of ineffectiveness, it is possible that excluding the most effective component from policy design compromises professional institutional legitimacy. At the same time, shifting focus on the policy design can be a mixed blessing in terms of performative institutional legitimacy. The increasingly arbitrary definitions of policy triggers and boundary conditions and reversals of policy triggers point towards decreasing ability of market actors to anticipate Fed's policy conduct, which undermines performative institutional legitimacy, which may, in turn, further weaken professional institutional legitimacy.

Second, there is a potential tension between legitimisation based on temporariness and loose definition of policy triggers. The Fed has avoided accusations of monetising public debt with a narrative that represents QE as a temporary measure. However, it has also represented QE as a permanent practice in case of mortgage-backed securities, and a regular instrument that can be used in conditions of emerging financial instability or decreasing employment rates. In order to improve institutional legitimacy, either the Fed's mandate ought to be expanded to purchases of other assets than Treasury bills purchases, or the policy triggers for initiating, maintaining, and unwinding QE programmes ought to be defined more clearly as temporary measures. The latter option seems unlikely in light of our analysis. Providing more detailed triggers may reveal possible inconsistencies in the Fed's institutional legitimisation narrative and hence hinder control over forward guidance. And control is certainly needed. For example, if markets think above-target inflation will prompt a reversal of the policy, then any new QE will probably have very little impact (The Economist 2012). Estimate-based triggers enable Fed to employ forward guidance in a form in which market actors become dependent on Fed's estimates. The constant disparity between NAIRU estimates and actual unemployment has allowed the Fed to avoid unwinding the QE in conditions of low unemployment, while anchoring QE and FFR policy to different estimates enables independent use of both instruments even when they are coupled in legitimisation narratives.

Thirdly, and perhaps most importantly, despite ostensible coherence, the construction of performative institutional legitimisation narratives has not been completely consistent. Especially the relation

between QE and other policy tools remain somewhat unclear in certain circumstances. For example, if the unemployment rates fall below NAIRU estimates and severe financial fluctuations emerge, but inflation still remains low, the logical thing to do according to Fed's legitimization strategy would be to launch another round of QE to maintain financial stability, while simultaneously raising short-term interest rates to avoid inflationary levels of unemployment. In other words, the Fed would simultaneously pursue higher short-term interest rates and lower long-term interest rates. Thus far, the perception of being-in-control in face of these types of problems relies on use of other policy instruments. Yet, the different instruments have been over time decoupled from each other, which makes it unclear whether other tools will be activated in the first place even when they should.

To conclude, our analysis suggests that many social institutions influencing Fed's activities have not been aligned with the formal institutions of finance-led growth regimes. The asset class limitations of Fed's legal constraints makes it difficult to conduct QE consistently, while accommodating maintenance of wealth effect to previous monetary policy practices and theories underlying them has not been seamless. Moreover, the increased questioning among the political and professional communities of the core assumptions underlying QE points toward increasingly fragile institutional legitimacy. The decoupling of Fed's asset purchases from mechanisms producing financial bubbles to safeguard public and professional institutional legitimacy seems especially risky. For what else is the maintenance of 'wealth effect' than maintenance of a permanent financial bubble based on capital market inflation (Palan 2013)? Certainly, the fear of losing market mechanisms in finance may be too much for the Congress to allow independent conduct of QE to be maintained, while the decreasing effectiveness of short-term solutions in conditions of long-term 'secular stagnation' (Summers 2014) may be too little to professional audiences to continue the appraisal of QE in the long run.

Notes

1. The Federal Reserve Act authorises the Fed to purchase and sell obligations issued or guaranteed by the US federal government or any of its agencies, which in effect limits purchases to Treasury securities and mortgage backed securities (MBS) guaranteed by Ginnie Mae, Farmie Mae and Freddie Mac and the bonds issued by these government-sponsored enterprises.
2. The two main functions, maintaining monetary stability and financial stability, are usually called the 'micro' and 'macro' functions of central banks. The 'micro' functions include issuing of money (central bank reserves, more specifically) and the conduct of monetary policy, while the 'macro' functions include the working of the payments system, lending of last resort, and banking supervision (Ugolini 2011: 7).
3. After the end of QE2, the Fed announced that it would purchase \$400 billion worth of Treasury bills with maturity of 6–30 years and sell an equal amount of 3-year Treasury bills. Because the Fed only changed the duration of assets, and not the composition of asset classes in its balance sheet, we will not analyse this so-called Operation Twist as a separate QE program.
4. The FOMC transcripts are published in a five-year lag, which is why the material consists only QE1 and QE2 transcripts.
5. It is worth noting that the FOMC had changed its phrasing of forward guidance several times before that. From March 2009 to June 2011, exceptionally low federal funds rate was expected to continue for 'an extended period'. In August 2011, the time horizon of exceptionally low interest rate was specified to last 'at least through mid-2013'. It was pushed forward to the future, 'to late 2014' in January 2012, and finally to 'through mid-2015' in September 2012.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributor

Antti Ronkainen is doctoral researcher in political science at the University of Helsinki. His research focuses on the political economy of central banking and unconventional monetary policy.

Ville-Pekka Sorsa is assistant professor of management and organisation at Hanken School of Economics, Helsinki. His research focuses on political economy of finance, pension systems, and politics of corporate responsibility. He has recently published in *Socio-Economic Review* and *Social Policy & Administration*.

ORCID

Antti Ronkainen  <http://orcid.org/0000-0002-4173-1016>

Ville-Pekka Sorsa  <http://orcid.org/0000-0002-8539-092X>

References

- Abolafia, M.Y. (2004), 'Framing Moves: Interpretive Politics at the Federal Reserve', *Journal of Public Administration Research and Theory*, 14 (3), pp. 349–70.
- Abolafia, M.Y. (2010), 'Narrative Construction as Sensemaking: How a Central Bank Thinks', *Organization Studies*, 31 (3), pp. 349–67.
- Aglietta, M. (2000), *A Theory of Capitalist Regulation: The US Experience* (London: Verso).
- Agostini, G., et al. (2016), *Comparative Study of Central Bank Quantitative Easing Programs* (New York: School of International and Public Affairs, Columbia University in the City of New York).
- Ashforth, B.E. and Gibbs, B.W. (1990), 'The Double-Edge of Organizational Legitimation', *Organization Science*, 1 (2), pp. 177–94.
- Bernanke, B. (2002), 'Deflation: Making Sure "It" Doesn't Happen Here', *Speech at the National Economists Club*, Washington, D.C., 21 November. Available from: <https://www.federalreserve.gov/boardDocs/speeches/2002/20021121/default.htm> [accessed 5 July 2016].
- Bernanke, B. (2009), 'The Fed's Exit Strategy', *The Wall Street Journal*, 21 July. Available from: <http://www.wsj.com/articles/SB10001424052970203946904574300050657897992> [accessed 5 July 2016].
- Bernanke, B. (2010a), 'The Economic Outlook and Monetary Policy', *Speech at the Federal Reserve Bank of Kansas City Economic Symposium*, Jackson Hole, 27 August. Available from: <https://www.federalreserve.gov/newsevents/speech/bernanke20100827a.htm> [accessed 7 July 2016].
- Bernanke, B. (2010b), 'What the Fed Did and Why: Supporting the Recovery and Sustaining Price Stability', *The Washington Post*, 4 November. Available from: <http://www.washingtonpost.com/wp-dyn/content/article/2010/11/03/AR2010110307372.html> [accessed 5 July 2016].
- Bernanke, B. (2012) 'Monetary Policy Since the Onset of the Crisis', *Speech at the Federal Reserve Bank of Kansas City Economic Symposium*, Jackson Hole, 31 August. Available from: <http://www.federalreserve.gov/newsevents/speech/bernanke20120831a.htm> [accessed 5 July 2016].
- Bernanke, B. (2013) 'Communication and Monetary Policy', *Speech at the National Economists Club Annual Dinner*, Herbert Stein Memorial Lecture, Washington D.C., 19 November. Available from: <https://www.federalreserve.gov/newsevents/speech/bernanke20131119a.htm> [accessed 5 July 2016].
- Bernanke, B. (2015), *The Encourage to Act. A Memoir of a Crisis and Its Aftermath* (New York: W.W. Norton & Company).
- Borio, C. and Disyatat, P. (2010), 'Unconventional Monetary Policies: An Appraisal', *The Manchester School*, 78, pp. 53–89.
- Bowman, A., et al. (2013), 'Central Bank-Led Capitalism', *Seattle University Law Review*, 36, pp. 455–87.
- Boyer, R. (2000), 'Is a Finance-Led Growth Regime a Viable Alternative to Fordism? A Preliminary Analysis', *Economy and Society*, 29 (1), pp. 111–45.
- Carruthers, B. (1994), 'When Is the State Autonomous? Culture, Organization Theory, and the Political Sociology of the State', *Sociological Theory*, 12, pp. 19–44.
- Cour-Thimann, P. and Winkler, B. (2012), 'The ECB's Non-Standard Monetary Policy Measures: The Role of Institutional Factors and Financial Structure', *Oxford Review of Economic Policy*, 28 (4), pp. 765–803.
- Crouch, C. (2009), 'Privatised Keynesianism: An Unacknowledged Policy Regime', *The British Journal of Politics & International Relations*, 11 (3), pp. 382–99.
- Cúrdia, V. and Ferrero, A. (2013), 'How Stimulatory Are Large-Scale Asset Purchases?' *FRBSF Economic Letter*, 12 August. Available from: <http://www.frbsf.org/economic-research/files/el2013-22.pdf> [accessed 5 July 2016].
- Davies, H. and Green, D. (2010), *Banking on the Future: The Fall and Rise of Central Banking* (Princeton, NJ: Princeton University Press).
- DiMaggio, P.J. and Powell, W.W. (1991), *The New Institutionalism in Organizational Analysis* (Chicago: University of Chicago Press).
- Dodd, N. (2011), '“Strange Money”: Risk, Finance and Socialized Debt', *The British Journal of Sociology*, 62 (1), pp. 175–94.
- Dodge, J., Ospina, S.M., and Foldy, E.G. (2005), 'Integrating Rigor and Relevance in Public Administration Scholarship: The Contribution of Narrative Inquiry', *Public Administration Review*, 65 (3), pp. 286–300.
- The Economist (2012) 'QE, or Not QE?', *The Economist*, 14 July 2012. Available from: <http://www.economist.com/node/21558596> [accessed 7 July 2017].

- Ehrmann, M. and Fratzscher, M. (2007), 'Communication by Central Bank Committee Members: Different Strategies, Same Effectiveness?', *Journal of Money, Credit and Banking*, 39 (2–3), pp. 509–41.
- Engelen, E., et al. (2011), *After the Great Complacency: Financial Crisis and the Politics of Reform* (Oxford: Oxford University Press).
- Epstein, G.A. (2005), *Financialization and the World Economy* (Cheltenham: Edward Elgar).
- Fed. (2016), 'What are the Federal Reserve's Objectives in Conducting Monetary Policy?', *Board of Governors of the Federal Reserve System*. Available from: http://www.federalreserve.gov/faqs/money_12848.htm [accessed 5 July 2016].
- Felkerson, J. (2011), *\$29,000,000,000,000: A Detailed Look at the Fed's Bailout by Funding Facility and Recipient*. Working Paper No. 698, Levy Economics Institute.
- FOMC (2008), 'Press Release, Federal Open Market Committee', 25 November. Available from: <http://www.federalreserve.gov/newsevents/press/monetary/20081125b.htm> [accessed 7 July 2016].
- FOMC (2009), 'Transcript of the Federal Open Market Committee Meeting', 17–19 March. Available from: <https://www.federalreserve.gov/monetarypolicy/files/FOMC20090318meeting.pdf> [accessed 5 July 2016].
- FOMC (2010a), 'Transcript of the Federal Open Market Committee Meeting', 10 August. Available from: <https://www.federalreserve.gov/monetarypolicy/files/FOMC20100810meeting.pdf> [accessed 7 July 2016].
- FOMC (2010b), 'Transcript of the Federal Open Market Committee Meeting', 2–3 November. Available from: <https://www.federalreserve.gov/monetarypolicy/files/FOMC20101103meeting.pdf> [accessed 5 July 2016].
- FOMC (2010c), 'Statement, Federal Open Market Committee', 3 November. Available from: <http://www.federalreserve.gov/newsevents/press/monetary/20101103a.htm> [accessed 7 July 2016].
- FOMC (2012a), 'Longer-Run Goals and Policy Strategy, Federal Open Market Committee', 25 January. Available from: <https://www.federalreserve.gov/newsevents/press/monetary/20120125c.htm> [accessed 5 July 2016].
- FOMC (2012b), 'Statement, Federal Open Market Committee', 12 December. Available from: <https://www.federalreserve.gov/newsevents/press/monetary/20121212a.htm> [accessed 7 July 2016].
- FOMC (2012c), 'Transcript of Chairman Bernanke's Press Conference', 12 December. Available from: <https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20121212.pdf> [accessed 5 July 2016].
- FOMC (2014a), 'Press Release, Federal Open Market Committee', 19 March. Available from: <https://www.federalreserve.gov/newsevents/press/monetary/20140319a.htm> [accessed 5 July 2016].
- FOMC (2014b), 'Policy Normalization Principles and Plans', Federal Open Market Committee, 16 September. Available from: https://www.federalreserve.gov/monetarypolicy/files/FOMC_PolicyNormalization.pdf [accessed 7 July 2016].
- FOMC (2015a), 'Statement, Federal Open Market Committee', 18 March. Available from: <https://www.federalreserve.gov/newsevents/press/monetary/20150318a.htm> [accessed 7 July 2016].
- FOMC (2015b), 'Transcript of Chair Yellen's Press Conference', 16 December. Available from: <https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20151216.pdf> [accessed 7 July 2016].
- Gerdesmeier, D., Mongelli, F.P. and Roffia, B. (2007), 'The Eurosystem, the U.S. Federal Reserve, and the Bank of Japan: Similarities and Differences', *Journal of Money, Credit and Banking*, 39 (7), pp. 1785–819.
- Golub, S., Kaya, A. and Reay, M. (2015), 'What Were They Thinking? The Federal Reserve in the Run-Up to the 2008 Financial Crisis', *Review of International Political Economy*, 22 (4), pp. 657–92.
- Goodfriend, M. (2007), *How the World Achieved Consensus on Monetary Policy*, Working Paper No. 13580, National Bureau of Economic Research.
- Goodman, J.B. (1991), 'The Politics of Central Bank Independence', *Comparative Politics*, 23 (3), pp. 329–349.
- Gronow, A. (2008), 'Not by Rules or Choice Alone: A Pragmatist Critique of Institution Theories in Economics and Sociology', *Journal of Institutional Economics*, 4 (3), pp. 351–73.
- H. Hrg. 111–64. 'Monetary Policy and the State of the Economy', 21 July 2009. Available from: <https://www.gpo.gov/fdsys/pkg/CHRG-111hhrg53244/pdf/CHRG-111hhrg53244.pdf> [accessed 5 July 2016].
- H. Hrg. 112–11. 'Monetary Policy and the State of the Economy', 2 March 2011. Available from: <https://www.gpo.gov/fdsys/pkg/CHRG-112hhrg65672/pdf/CHRG-112hhrg65672.pdf> [accessed 5 July 2016].
- H. Hrg. 113–3. 'Monetary Policy and the State of the Economy', 27 February 2013. Available from: <https://www.gpo.gov/fdsys/pkg/CHRG-113hhrg80869/pdf/CHRG-113hhrg80869.pdf> [accessed 7 July 2016].
- Harnay, S. and Scialom, L. (2016), 'The Influence of the Economic Approaches to Regulation on Banking Regulations: A Short History of Banking Regulations', *Cambridge Journal of Economics*, 40 (2), pp. 401–26.
- Hetzel, R.L. (2006), 'Making the Systematic Part of Monetary Policy Transparent', *Economic Quarterly*, 92 (3), 255–90.
- Holmes, D.R. (2013), *Economy of Words: Communicative Imperatives in Central Banks* (Chicago: University of Chicago Press).
- Issing, O. (2005), 'Communication, Transparency, Accountability: Monetary Policy in the Twenty-first Century', *Federal Reserve Bank of St. Louis Review*, 87 (2, Part 1), pp. 65–83.
- Jacobs, L. and King, D. (2016), *Fed Power: How Finance Wins* (Oxford: Oxford University Press).
- Joyce, M., et al. (2012), 'Quantitative Easing and Unconventional Monetary Policy – An Introduction', *The Economic Journal*, 122 (564), pp. F271–88.
- Krippner, G.R. (2005), 'The Financialization of the American Economy', *Socio-Economic Review*, 3 (2), pp. 173–208.
- Krippner, G.R. (2007), 'The Making of US Monetary Policy: Central Bank Transparency and the Neoliberal Dilemma', *Theory and Society*, 36 (6), pp. 477–513.

- Landau, D., Drori, I. and Terjesen, S. (2014), 'Multiple Legitimacy Narratives and Planned Organizational Change', *Human Relations*, 67 (11), pp. 1321–45.
- Le Maux, L. and Scialom, L. (2013), 'Central Banks and Financial Stability: Rediscovering the Lender-of-Last-Resort Practice in a Finance Economy', *Cambridge Journal of Economics*, 37 (1), 1–16.
- Lombardi, D. and Moschella, M. (2016), 'The Government Bond Buying Programmes of the European Central Bank: An Analysis of Their Policy Settings', *Journal of European Public Policy*, 23 (6), 851–70.
- Marcussen, M. (2009), 'Scientization of Central Banking: The Politics of A-Politization', in K. Dyson and M. Marcussen (eds), *Central Banks in the Age of Euro: Europeanization, Convergence and Power* (Oxford: Oxford University Press), 373–90.
- Martin, C. and Milas, C. (2012), 'Quantitative Easing: A Sceptical Survey', *Oxford Review of Economic Policy*, 28 (4), pp. 750–764.
- McDowell, D. (2012), 'The US as "Sovereign International Last-Resort Lender": The Fed's Currency Swap Programme During the Great Panic of 2007–09', *New Political Economy*, 17 (2), 157–78.
- McNamara, K. (2002), 'Rational Fictions: Central Bank Independence and the Social Logic of Delegation', *West European Politics*, 25 (1), 47–76.
- Miller, M., Weller, P. and Zhang, L. (2002), 'Moral Hazard and the US Stock Market: Analysing the "Greenspan Put"', *The Economic Journal*, 112 (478), pp. C171–86.
- New York Times (2010) 'Dear Mr. Bernanke: No Pressure, but ...', *New York Times*, 17 November 2010. Available from: <http://thecaucus.blogs.nytimes.com/2010/11/17/dear-mr-bernanke-no-pressure-but/> [accessed 7 July 2016].
- Palan, R. (2013), 'The Financial Crisis and Intangible Value', *Capital & Class*, 37(1), pp. 65–77.
- Peck, J. (2000), 'Doing Regulation', in G.L. Clark, M.P. Feldman and M.S. Gertler (eds) *The Oxford Handbook of Economic Geography* (Oxford: Oxford University Press), pp. 61–80.
- Perrow, C. (1981), 'Normal Accident at Three Mile Island', *Society*, 18 (5), 17–26.
- Pilkington, M. (2013), *The Global Financial Crisis and the New Monetary Consensus* (London: Routledge).
- Polillo, S. and Guillén, M.F. (2005), 'Globalization Pressures and the State: The Worldwide Spread of Central Bank Independence', *American Journal of Sociology*, 110 (6), pp. 1764–802.
- Rajan, R.G. (2010), 'Rebalancing the Global Economy', *New Perspectives Quarterly*, 27 (4), pp. 7–9.
- Rosenberg, A. (2016) 'Deutsche Bank Economist: Why the Fed has Gotten it Wrong Time and Time Again', CNBC Trading Nation, 29 September 2016, Available from: <http://www.cnbc.com/2016/09/29/deutsche-bank-economist-why-the-fed-has-gotten-it-wrong-time-and-time-again.html> [accessed 11 July 2017].
- S. Hrg. 111–287. 'Federal Reserve's Second Monetary Policy Report for 2009', 22 July 2009. Available from: <https://www.gpo.gov/fdsys/pkg/CHRG-111shrg55117/pdf/CHRG-111shrg55117.pdf> [accessed 7 July 2016].
- S. Hrg. 112–8. 'Federal Reserve's First Monetary Policy Report For 2011', 1 March 2011. Available from: <https://www.gpo.gov/fdsys/pkg/CHRG-112shrg65824/pdf/CHRG-112shrg65824.pdf> [accessed 5 July 2016].
- S. Hrg. 113–6. 'Federal Reserve's First Monetary Policy Report for 2013', 26 February 2013. Available from: <https://www.gpo.gov/fdsys/pkg/CHRG-113shrg80509/pdf/CHRG-113shrg80509.pdf> [accessed 5 July 2016].
- S. Hrg. 113–62. 'The Economic Outlook', 22 May 2013. Available from: <https://www.gpo.gov/fdsys/pkg/CHRG-113shrg81472/pdf/CHRG-113shrg81472.pdf> [accessed 5 July 2016].
- Scherer, A.G., Palazzo, G. and Seidl, D. (2013), 'Managing Legitimacy in Complex and Heterogeneous Environments: Sustainable Development in a Globalized World', *Journal of Management Studies*, 50 (2), pp. 259–84.
- Scott, W.R. (2013). *Institutions and Organizations: Ideas, Interests, and Identities*, 4th ed. (Los Angeles: SAGE).
- Singleton, J. (2010), *Central Banking in the Twentieth Century* (Cambridge: Cambridge University Press).
- Smith, W.K. and Lewis, M.W. (2011), 'Toward a Theory of Paradox: A Dynamic Equilibrium Model of Organizing', *Academy of Management Review*, 36 (2), pp. 381–403.
- Stockhammer, E. (2008), 'Some Stylized Facts on the Finance-dominated Accumulation Regime', *Competition & Change*, 12 (2), pp. 184–202.
- Suchman, M.C. (1995), 'Managing Legitimacy: Strategic and Institutional Approaches', *The Academy of Management Review*, 20 (3), pp. 571–610.
- Summers, L.H. (2014), 'U.S. Economic Prospects: Secular Stagnation, Hysteresis, and the Zero Lower Bound', *Business Economics*, 49 (2), pp. 65–73.
- Swedberg, R. (2003), *Principles of Economic Sociology* (Princeton, NJ: Princeton University Press).
- Tymoigne, E. (2009), *Central Banking, Asset Prices and Financial Fragility* (London: Routledge).
- Ugolini, S. (2011), *What Do We Really Know About the Long-Term Evolution of Central Banking? Evidence from the Past, Insights for the Present*, Norges Bank Working Paper, No. 2011/07. Available from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1963931 [accessed 5 July 2016].
- van der Zwan, N. (2014), 'Making Sense of Financialization', *Socio-Economic Review*, 12 (1), pp. 99–129.
- Velthuis, O. (2015), 'Making Monetary Markets Transparent: The European Central Bank's Communication Policy and Its Interactions With the Media', *Economy and Society*, 44 (2), pp. 316–40.
- Wall Street Journal (2010) 'Open Letter to Ben Bernanke', *Wall Street Journal*, 15 November 2010. Available from: <http://blogs.wsj.com/economics/2010/11/15/open-letter-to-ben-bernanke/> [accessed 8 August 2016].

- Williams, J. (2014), 'Monetary Policy When Rates Hit Zero: Putting Theory into Practice', in David Wessel (ed.), *Central Banking after the Great Recession. Lessons Learned, Challenges Ahead* (Washington: The Brookings Institution), pp. 21–44.
- Williamson, S. (2015) 'Current Federal Reserve Policy Under the Lens of Economic History: A Review Essay', Federal Reserve Bank of St. Louis Working Paper Series, 2015-015A. Available from: <https://research.stlouisfed.org/wp/2015/2015-015.pdf> [accessed 5 July 2016].
- Yellen, J. (2014) 'Monetary Policy and Financial Stability', Speech at the 2014 Michel Camdessus Central Banking Lecture, International Monetary Fund, Washington D.C. 2 July. Available from: <https://www.federalreserve.gov/newsevents/speech/yellen20140702a.htm> [accessed 7 July 2016].